REMARKS

Applicant certainly appreciates the courteous assistance provided by Examiners Butler and Johnson in the interview held March 13, 2007. Applicant has amended the claims as discussed during the interview. Applicant has amended the abstract as required and amended the specification to match terminology of the specification with the claims. An extension of time for one month is enclosed. Applicant respectfully traverses the rejection of the claims over the cited art and respectfully requests reconsideration.

Claim 25 as amended requires mounting a shearing station (60, Fig. 6A) in alignment with the outlet end of the compression chamber (50), pushing the outer end portion of the continuous length from the compression chamber into the shearing station. The claim requires when the outer end portion of the continuous length protrudes out the open outlet end of the compression chamber by an amount equal to desired length of the block, moving the shearing station transverse to the bore of the compression chamber then back again into alignment with the compression chamber to fracture the outer end portion from the continuous length.

Jaques moves a compressed mass of material into extension c to make blocks or bricks of cement or artificial stone. A plurality of knives *e* are mounted in extension *c* near its outlet. A knife *e* it is inserted down through the column of material to separate a block *k* from the remaining portion *b*. Continuing strokes from piston *f* cause the bar *b* of material to advance forward, with one of the knives *e* remaining in place to separate bar *b* from the block *k*. When the same distance has been achieved, an additional knife *e* will be moved downward through bar *b* to form an additional block *k*. The blocks *k* are thus separated from each other by knives *e* until the material cures sufficiently to remove knives *e*.

Jaques does not disclose moving a shearing chamber transverse to the bore of the compression chamber. Nor does Huffaker show this step. Huffaker shows a device for making adobe using mud and straw 245 placed into a mold chamber 244. Then, lid 186 is closed. Before closing lid 186, the operator places a thin metal plate 246 on either the forward or the rearward side of chamber 244. Piston 132 then pushes the wet mass against door 100, if this is an initial stroke, or against previously formed blocks 248, shown in Figure 9. If a sufficient number of previously formed blocks 249 are located on supporting structure 22, the friction of

the adobe mud against the walls of supporting structure 22 will provide sufficient resistance for piston 132 to compact the material within chamber 244 without the need for door 100. With each stroke of piston 132, a new plate 246 will be placed to separate the bricks of adobe while they dry, shown in Figure 9. Plates 246 are then removed.

Huffaker and Jaques are thus similar in that both push a wet column of material and placing a knife or a plate between the blocks so that they don't fuse together before drying. Neither reference suggests fracturing a block from a continuous length by moving a shear station transverse to the compression chamber.

Stanga shows an extrusion process for making cheese. An auger 14 forces wet cheese product into one of a number of tubular cheese formers 32, each of which is mounted on a turntable 24. When a particular cheese former 32 is full, the operator rotates turntable 24, shearing off the portion of the cheese in former 32 from the portion in passage 87. The movement of turntable 24 swings an empty cheese former 32 into alignment with passage 87. The operator removes the full cheese former 32 and refrigerates it to solidify the cheese. Formers 32 thus serve as a mold to form the shape and length of the cheese.

Stanga does not suggest to move the former 32 out of alignment with bore 37 then back into alignment with bore 37 while cheese remains in former 32. Rather Stanga 37 removes former 32 out of alignment with bore 37, chills it, removes the cheese, and returns it back into alignment when empty. Combining Stanga with Jaques would suggest to push the wet cement material into a former 32, remove former 32 from the continuous length, after curing removing the block from former 32, then return an empty former 32 back to knives e are located.

Moses U.S. 3,458,953 deals with treating soil, but does not mention forming compacted earth blocks nor suggests anything concerning a shearing chamber. Underwood does not disclose a shearing chamber that causes a rigid block to fracture along a shear line due to movement of the shearing chamber transverse to the axis of the compaction chamber.

Jeppesen 3,008,199 moves a ram 24 and a pattern board 12 against a pattern board 11, which is restrained in place, as shown in Figure 2. After forming a new block 10, pattern board 11 is lifted and the ram pushes the new block along with pattern board 12 onto the channel 1 in alignment with previously formed blocks. The process is then repeated. The blocks are molded to length by means of a piston pushing against a pattern board 11, thus, Jeppesen would have no

motivation to utilize a shearing chamber. Jeppesen does not form a continuous column of mold material that would require shearing.

Claim 26 depends from claim 25, further requiring attaching an outlet end of the shearing chamber (60, Fig. 6A) to a forward end of support structure (70) such that transverse movement of the shearing chamber causes the forward end of the support structure to also move transversely relative to the compression chamber. The references dealing with compaction of earth or forming bricks do not suggest a shearing chamber or a support structure having a forward end that moves in unison with the transverse movement of the shearing chamber.

Claim 27 states that the transverse movement of the shearing chamber relative to the compression chamber is by an amount less than a transverse dimension of the bore of the compression chamber. The specification mentions on page 20 that it is only one-half of an inch. The dimensions of the bore of compression chamber can vary, of course, and page 17 gives an example of 5" high by 11" wide. Figure 6A shows the device that causes the movement, and due to the pivot point 64 and position of fulcrum 68, it is clear that the transverse movement of shearing chamber 60 could exceed the transverse dimension of the bore of compression chamber 50. The shearing action creates a fracture in the hard, compacted earth, thus the shearing chamber need not move very far. In Stanga, the movement of each former 32 is more than the diameter of the bore 87 because the former 32 must be completely removed from turntable 24 and chilled to mold the cheese.

Claim 28 states that the transverse movement of the shearing member occurs while the continuous compressed earth continues to move toward the outlet end of the compression chamber. It is not necessary, as explained in the specification on page 21, to stop the stroking of the piston while this shearing action occurs. In Jaques, the continuous length is at rest while knife *e* is inserted because the plunger is retracting when this occurs. (page 2, lines 95-98; page 3, lines 37-39 and 107-110). In Huffaker, each metal plate 246 is inserted while the piston is at rest or retracting and the plate forms part of the compression chamber during the forward stroke..

Claim 30 requires varying the length of the outer end portion of the continuous length of compressed earth protruding from the compression chamber by measuring the length of the outer end portion before moving the shearing station transverse to the bore. As explained in the specification on page 21, this feature allows one to change the block length simply by changing instructions to the processor that controls moving the shearing chamber. Knives e in Jaques must

be inserted when bar b is stationary and the piston is retracting, thus the length of the block could not be varied simply by measuring the length. The lengths of the bars thus depend on the length of the stroke of the piston.

Claim 33 requires introducing uncompressed earth into the compression chamber (40A, Fig. 1A) from an open port (51) and while the port remains open, stroking a ram (20) into the bore of the compression chamber (40A) toward the open outlet end. The claim requires that the ram close off the port as it moves past it. In Jaques, during the compression stroke, a valve j (Fig. 1) closes the port. Valve j becomes part of the compression chamber. Valve j is opened as shown in Fig. XI to fill the chamber before piston *f* begins its forward stroke. In Huffaker, lid 186 must be closed during each stroke of piston 132. Neither reference suggests that the fill port remain open. This is an important feature of claim 33 because it assures that the chamber is completely filled with each stroke. The fill port is closed only when ram 20 passes it during the compression stroke, as shown in Figure 1B. Neither reference shows a ram that closes off the port; rather, both use lids or other devices.

Claim 33 also requires when an outer end portion of the continuous length protrudes from the outlet end of the compression chamber for a selected length, moving the outer end portion of the continuous length transverse to the compression chamber an amount less than a transverse dimension of the compression chamber to fracture the outer end portion from the remaining portion of the continuous length to define a compressed block. As discussed above, this step is not suggested by Stanga. Claim 38 requires mounting the forward end of the supporting surface to an outlet end of the shearing chamber and causing it to move in unison.

Claim 39 depends from claim 33 and states that at the conclusion of step (c) and before the retraction step (d), the forward side of the ram will be forward of the open port in the compression chamber. This position can be seen particularly in Figure 1C, wherein the piston is shown stroked passed open port 51. This feature is not shown in the references. In Jaques, the retraction stroke is shown in Figure I, and the extended stroke is shown in Fig. X. During the extended stroke, the forward side of the ram is flush with the fill port *b'*, not past it as required by the claim. In Huffaker, during the extended stroke, the forward end of the ram is located at the rearward edge of lid 186, not past it as required in the claim.

Claim 42 has a number of features not shown or suggested in the art, most of which has already been discussed. It requires moving a shearing chamber relative to the compression

chamber from an aligned position to a misaligned position and back to the aligned position while containing an outer end portion of the compressed earth. It requires that the fill port remain open as the ram starts, and the ram closing the fill port as it moves toward the extended position. It requires that the ram have a longitudinal dimension that prevents uncompressed earth from falling into the bore of the compression chamber when the ram is in the extended position. In Jaques, valve j prevents the earth from entering the bore, not a length of the ram.

Claim 44 is similar to other claims in that it requires moving a forward end of the support structure vertically in unison with the shearing chamber. It is respectfully submitted that the claims are now in condition for allowance, and favorable action is respectfully requested.

Please charge all fees to Bracewell & Giuliani, L.L.P. Deposit Account No. 50-0259 (089988.000002).

Respectfully Submitted,

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